

At Christ the Sower Ecumenical Primary School we provide the 'good earth' for all our children to flourish; where every child can learn and explore who they are created to be, with the high expectation that we, individually and collectively, will enable every child to be and do the best they can. A loving place where we all care, learn and grow together.

	Algorithms	Programming
6		<ul style="list-style-type: none"> To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a program to run on a controllable device To explain that selection can control the flow of a program To update a variable with a user input To use an conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device
5	<ul style="list-style-type: none"> To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program 	<ul style="list-style-type: none"> To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met To explain that a loop can be used to repeatedly check whether a condition has been met To design a physical project that includes selection To create a program that controls a physical computing project To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection To evaluate my program
4	<ul style="list-style-type: none"> To identify that accuracy in programming is important To explain what 'repeat' means To decompose a task into small steps To explain that in programming there are infinite loops and count controlled loops 	<ul style="list-style-type: none"> To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means To modify a count-controlled loop to produce a given outcome To decompose a task into small steps To create a program that uses count-controlled loops to produce a given outcome To develop the use of count-controlled loops in a different programming environment

		<ul style="list-style-type: none"> • To explain that in programming there are infinite loops and count controlled loops • To develop a design that includes two or more loops which run at the same time • To modify an infinite loop in a given program • To design a project that includes repetition • To create a project that includes repetition
3	<ul style="list-style-type: none"> • To create a project from a task description 	<ul style="list-style-type: none"> • To explore a new programming environment • To identify that commands have an outcome • To explain that a program has a start • To recognise that a sequence of commands can have an order • To change the appearance of my project • To create a project from a task description • To explain how a sprite moves in an existing project • To create a program to move a sprite in four directions • To adapt a program to a new context • To develop my program by adding features • To identify and fix bugs in a program • To design and create a maze-based challenge
2	<ul style="list-style-type: none"> • To explain what happens when we change the order of instructions • To use logical reasoning to predict the outcome of a program (series of commands) • To explain that programming projects can have code and artwork • To design an algorithm • To create and debug a program that I have written 	<ul style="list-style-type: none"> • To use logical reasoning to predict the outcome of a program (series of commands) • To explain that programming projects can have code and artwork • To create and debug a program that I have written • To explain that a sequence of commands has a start • To explain that a sequence of commands has an outcome • To create a program using a given design • To change a given design • To create a program using my own design • To decide how my project can be improved
1	<ul style="list-style-type: none"> • To explain what a given command will do • To act out a given word • To plan a simple program • To find more than one solution to a problem • To use my algorithm to create a program • To describe a series of instructions as a sequence 	<ul style="list-style-type: none"> • To combine forwards and backwards commands to make a sequence • To combine four direction commands to make sequences • To choose a command for a given purpose • To show that a series of commands can be joined together • To identify the effect of changing a value • To explain that each sprite has its own instructions • To design the parts of a project • To use my algorithm to create a program
Algorithms		Programming

	Computer Networks	Computer Systems
6	<ul style="list-style-type: none"> To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom To recognise how we communicate using technology To evaluate different methods of online communication To review an existing website and consider its structure To outline the need for a navigation path To recognise the implications of linking to content owned by other people 	<ul style="list-style-type: none"> To create a program to run on a controllable device To explain that selection can control the flow of a program To update a variable with a user input To use an conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device
5	<ul style="list-style-type: none"> To recognise how information is transferred over the internet To explain how sharing information online lets people in different places work together To contribute to a shared project online To evaluate different ways of working together online 	<ul style="list-style-type: none"> To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To identify digital devices that can record video To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met To design a physical project that includes selection To create a program that controls a physical computing project
4	<ul style="list-style-type: none"> To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web (WWW) To describe how content can be added and accessed on the World Wide Web (WWW) To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content 	<ul style="list-style-type: none"> To identify that sound can be digitally recorded To use a digital device to record sound To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To identify the data needed to answer questions To use collected data to answer questions
3	<ul style="list-style-type: none"> To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network 	<ul style="list-style-type: none"> To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network
2	<ul style="list-style-type: none"> To recognise the uses and features of information technology To identify the uses of information technology in the school To identify information technology beyond school To explain how information technology helps us To explain how to use information technology safely To recognise that choices are made when using information technology 	<ul style="list-style-type: none"> To recognise the uses and features of information technology To identify the uses of information technology in the school To identify information technology beyond school To explain how information technology helps us To explain how to use information technology safely To recognise that choices are made when using information technology To use a digital device to take a photograph To make choices when taking a photograph
1		<ul style="list-style-type: none"> To identify technology To identify a computer and its main parts

		<ul style="list-style-type: none"> • To use a mouse in different ways • To use a keyboard to type on a computer • To use the keyboard to edit text • To create rules for using technology responsibly
	Computer Networks	Computer Systems

	Impact of Technology	Safety and Security
6	<ul style="list-style-type: none"> • To recognise why the order of results is important, and to whom • To recognise the implications of linking to content owned by other people 	<ul style="list-style-type: none"> • To consider the ownership and use of images (copyright)
5	<ul style="list-style-type: none"> • To recognise the role of computer systems in our lives • To explain how sharing information online lets people in different places work together 	<ul style="list-style-type: none"> • To capture video using a range of techniques
4	<ul style="list-style-type: none"> • To evaluate the consequences of unreliable content • To change the composition of an image 	<ul style="list-style-type: none"> • To describe how networks physically connect to other networks • To evaluate the consequences of unreliable content • To recognise that not all images are real
3	<ul style="list-style-type: none"> • To recognise how digital devices can change the way we work • To consider the benefits of desktop publishing 	<ul style="list-style-type: none"> • To identify that information technology is not always required to complete a task. • To recognize that images and text can both communicate a message.
2	<ul style="list-style-type: none"> • To identify the uses of information technology in the school • To identify information technology beyond school • To explain how information technology helps us • To recognise that choices are made when using information technology 	<ul style="list-style-type: none"> • To recognise the uses and features of information technology • To explain how to use information technology safely • To recognise that choices are made when using information technology • To explain that we can present information using a computer
1	<ul style="list-style-type: none"> • To identify technology • To act out a given word 	<ul style="list-style-type: none"> • To create rules for using technology responsibly
	Impact of Technology	Safety and Security

	Creating Media	Data and Information
6	<ul style="list-style-type: none"> To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people To choose suitable ways to present data To use a computer to create and manipulate three-dimensional (3D) digital objects To compare working digitally with 2D and 3D graphics To construct a digital 3D model of a physical object To identify that physical objects can be broken down into a collection of 3D shapes To design a digital model by combining 3D objects To develop and improve a digital 3D model 	<ul style="list-style-type: none"> To identify questions which can be answered using data To explain that objects can be described using data To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event To choose suitable ways to present data
5	<ul style="list-style-type: none"> To explain what makes a video effective To identify digital devices that can record video To capture video using a range of techniques To create a storyboard To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to make them easier to work with To evaluate my vector drawing 	<ul style="list-style-type: none"> To use a form to record information To compare paper and computer-based databases To outline how grouping and then sorting data allows us to answer questions To explain that tools can be used to select specific data To explain that computer programs can be used to compare data visually To apply my knowledge of a database to ask and answer real-world questions To identify that drawing tools can be used to produce different outcomes
4	<ul style="list-style-type: none"> To describe how content can be added and accessed on the World Wide Web (WWW) To use a digital device to record sound To explain that a digital recording is stored as a file To explain that audio can be changed through editing To show that different types of audio can be combined and played together To evaluate editing choices made To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image 	<ul style="list-style-type: none"> To identify that sound can be digitally recorded To explain that a digital recording is stored as a file To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To use data collected over a long duration to find information To identify the data needed to answer questions To use collected data to answer questions
3	<ul style="list-style-type: none"> To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation 	<ul style="list-style-type: none"> To create questions with yes/no answers To identify the object attributes needed to collect relevant data

	<ul style="list-style-type: none"> • To identify the need to work consistently and carefully • To review and improve an animation • To evaluate the impact of adding other media to an animation • To create a project from a task description • To recognise how text and images convey information • To recognise that text and layout can be edited • To choose appropriate page settings • To add content to a desktop publishing publication • To consider how different layouts can suit different purposes • To consider the benefits of desktop publishing 	<ul style="list-style-type: none"> • To create a branching database • To explain why it is helpful for a database to be well structured • To identify objects using a branching database • To compare the information shown in a pictogram with a branching database
2	<ul style="list-style-type: none"> • To use a digital device to take a photograph • To make choices when taking a photograph • To describe what makes a good photograph • To decide how photographs can be improved • To use tools to change an image • To recognise that photos can be changed • To say how music can make us feel • To identify that there are patterns in music • To show how music is made from a series of notes • To show how music is made from a series of notes • To create music for a purpose • To review and refine our computer work 	<ul style="list-style-type: none"> • To show how music is made from a series of notes • To show how music is made from a series of notes • To recognise that we can count and compare objects using tally charts • To recognise that objects can be represented as pictures • To create a pictogram • To select objects by attribute and make comparisons • To recognise that people can be described by attributes • To explain that we can present information using a computer
1	<ul style="list-style-type: none"> • To describe what different freehand tools do • To use the shape tool and the line tools • To make careful choices when painting a digital picture • To explain why I chose the tools I used • To use a computer on my own to paint a picture • To compare painting a picture on a computer and on paper • To use a computer to write • To add and remove text on a computer • To identify that the look of text can be changed on a computer • To make careful choices when changing text • To explain why I used the tools that I chose • To compare typing on a computer to writing on paper 	<ul style="list-style-type: none"> • To label objects • To identify that objects can be counted • To describe objects in different ways • To count objects with the same properties • To compare groups of objects • To answer questions about groups of objects
	Creating Media	Data and Information

	Design and Development	Effective Use of Tools
6	<ul style="list-style-type: none"> To evaluate different methods of online communication To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project To design a digital model by combining 3D objects To develop and improve a digital 3D model To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and outputs on a controllable device 	<ul style="list-style-type: none"> To identify how to use a search engine To describe how search engines select results To explain how search results are ranked To recognise why the order of results is important, and to whom To recognise how we communicate using technology To evaluate different methods of online communication To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people To explain that formulas can be used to produce calculated data To apply formulas to data, including duplicating To create a spreadsheet to plan an event To choose suitable ways to present data To use a computer to create and manipulate three-dimensional (3D) digital objects To compare working digitally with 2D and 3D graphics To construct a digital 3D model of a physical object To identify that physical objects can be broken down into a collection of 3D shapes To design a digital model by combining 3D objects To develop and improve a digital 3D model
5	<ul style="list-style-type: none"> To evaluate different ways of working together online To explain what makes a video effective To create a storyboard To consider the impact of the choices made when making and sharing a video To design a physical project that includes selection To create a program that controls a physical computing project To compare paper and computer-based databases To evaluate my vector drawing To design a program which uses selection To create a program which uses selection To evaluate my program 	<ul style="list-style-type: none"> To contribute to a shared project online To evaluate different ways of working together online To create a storyboard To identify that video can be improved through reshooting and editing To consider the impact of the choices made when making and sharing a video To use a form to record information To explain that tools can be used to select specific data To explain that computer programs can be used to compare data visually To apply my knowledge of a database to ask and answer real-world questions To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to make them easier to work with
4	<ul style="list-style-type: none"> To use a digital device to record sound To explain that a digital recording is stored as a file To evaluate editing choices made To describe how images can be changed for different uses To evaluate how changes can improve an image 	<ul style="list-style-type: none"> To use a digital device to record sound To explain that a digital recording is stored as a file To explain that audio can be changed through editing To show that different types of audio can be combined and played together To create a program in a text-based language

	<ul style="list-style-type: none"> To develop the use of count-controlled loops in a different programming environment To develop a design that includes two or more loops which run at the same time To design a project that includes repetition To create a project that includes repetition 	<ul style="list-style-type: none"> To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time To use data collected over a long duration to find information To identify the data needed to answer questions To explain that digital images can be changed To change the composition of an image To describe how images can be changed for different uses To make good choices when selecting different tools To recognise that not all images are real To evaluate how changes can improve an image
3	<ul style="list-style-type: none"> To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation To change the appearance of my project To create a project from a task description To explain why it is helpful for a database to be well structured To compare the information shown in a pictogram with a branching database To consider how different layouts can suit different purposes To consider the benefits of desktop publishing To identify and fix bugs in a program To design and create a maze-based challenge 	<ul style="list-style-type: none"> To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation To explore a new programming environment To create a branching database To explain why it is helpful for a database to be well structured To identify objects using a branching database To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing To explain how a sprite moves in an existing project To create a program to move a sprite in four directions
2	<ul style="list-style-type: none"> To describe what makes a good photograph To decide how photographs can be improved To create music for a purpose To explain that programming projects can have code and artwork To design an algorithm To create and debug a program that I have written To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved 	<ul style="list-style-type: none"> To make choices when taking a photograph To decide how photographs can be improved To use tools to change an image To recognise that photos can be changed To create music for a purpose To review and refine our computer work To recognise that objects can be represented as pictures To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer
1	<ul style="list-style-type: none"> To explain why I chose the tools I used To compare painting a picture on a computer and on paper To explain why I used the tools that I chose To plan a simple program To design the parts of a project 	<ul style="list-style-type: none"> To use a mouse in different ways To use a keyboard to type on a computer To use the keyboard to edit text To create rules for using technology responsibly To describe what different freehand tools do

	<ul style="list-style-type: none"> To use my algorithm to create a program 	<ul style="list-style-type: none"> To use the shape tool and the line tools To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To compare painting a picture on a computer and on paper To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To make careful choices when changing text To explain why I used the tools that I chose To compare typing on a computer to writing on paper
	Design and Development	Effective Use of Tools